

ABSTRACT OF THE DISCLOSURE

A method and apparatus for varying the washout of a wing such that induced drag is minimized during a flight. The washout is varied pursuant to an optimized twist distribution that depends on the wing planform and an optimized twist amount which depends, at least in part, upon the operating conditions, including those parameters used to determine the lift coefficient. The optimum twist may be employed by geometric or aerodynamic twist, including full spanwise control surfaces used to simultaneously provide roll control, high-lift and minimum induced drag. The optimum twist may also be employed by twisting just a portion of the wing or the entire wing, either geometrically or aerodynamically.

15

20

S:\CHC Files\T10--\T103--\T10342\PATAPP.FINAL.03112004.wpd